

In response to the restriction requirement, applicant confirms the election of the claims of Group I and traverses the restriction requirements for reasons set forth later in this response.

With respect to the rejection under 35 U.S.C. 112, claim 37 has been amended to reflect the fact that the group $C_5R'_m$ is designated as a substituted cyclopentadienyl group and in view of the recitation in the claim that it least one R' is a hydrocarbyl radical imparting chirality to the metallocene. In view of the foregoing amendment it would appear that claim 37 and the claims dependent thereon are now in full compliance with the requirements of 35 U.S.C. 112.

The rejection of claims 37 – 66 as unpatentable over U.S. Patent No. 4,769,510 to Kaminsky in view of U.S. Patent No. 4,522,982 to Ewen is respectfully traversed.

For reasons advanced below, applicant would respectfully submit that the teachings of Kaminsky and Ewen cannot be selectively combined in order to arrive at applicant's invention without a hindsight reconstruction of the prior art references made with the benefit of applicant's disclosure. Further even if one of ordinary skill in the art were, after a consideration of applicant's disclosure, to attempt to combine the Kaminsky and Ewen teachings, the result would not lead one of ordinary skill in the art to a polymer product formed in the presence of a chiral, stereorigid metallocene characterized with a silicon hydrocarbyl interannular bridge as specified in applicant's claims. Still further, even if the references could be combined in a manner to establish a *prima facie* case of obviousness, the unexpected results achieved through the use of applicant's invention would clearly rebut any such *prima facie* case of obviousness and establish patentability of the claims.

It is noted initially that all of applicant's claims are directed to a polymer product comprising an isotactic polymer produced by the polymerization of propylene in the presence of

the bridged chiral, stereorigid metallocene as specified in each of the claims. The patent to Kaminsky is also directed to the polymerization of propylene in the presence of a metallocene but in this case the bridge structure, if it is present, is a $C_1 - C_4$ linear hydrocarbon group or a cyclic $C_3 - C_6$ hydrocarbonyl group. The unsymmetrical ligand structure disclosed in Kaminsky can be characterized as a mononuclear or polynuclear unsymmetrical radical although it preferably will take the form of a tetrahydroindenyl group. Specifically disclosed is a metallocene structure having two tetrahydroindenyl groups incorporating an ethylene bridge. While Kaminsky discloses a metallocene ligand structure effective in the polymerization of propylene to produce isotactic polypropylene, the patent to Ewen proceeds in a directly contrary fashion. In Ewen the metallocene structure is effective in the polymerization of propylene to produce an isotactic stereoblock polypropylene. It would appear to be literally impossible in view of the reference disclosures to combine the teachings of Kaminsky and Ewen to produce an isotactic polymer structure in the presence of a chiral, stereorigid metallocene with the bridge structure provided by a silicon hydrocarbonyl group. If one were to attempt to modify the teachings of Kaminsky in view of the patent to Ewen the result would be some sort of a stereo block polymer and not an isotactic polymer as required in applicant's claims.

As demonstrated by the foregoing remarks, it is respectfully submitted that the combinations of the secondary reference with the primary reference cannot be made in a manner to arrive at applicant's invention even if it were appropriate to use applicant's teachings as a basis for combining the diverse teachings of the references. This, however, is not the appropriate standard to be applied in combining prior art teachings. The appropriate standard forbids using an applicant's' own disclosure as a basis for assembling prior art teachings and requires a suggestion or motivation in the prior art as reflected in decisions in *ACS Hospital Systems, Inc.*

v. Montefiore Hospital, 221 USPQ 929 (Fed. Cir. 1984) and Ex parte Giles 228 USPQ 886 (PTO Bd. Of Appeal. And Int. 1985). As expressed by the Board in Giles at 688:

Only appellant's disclosure and not the prior art provides a motive for achieving the combination as claimed by the appellant. To imbue one of ordinary skill in the art with knowledge of the invention . . . when no prior art reference or references of record convey or suggests that knowledge is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

Attention is also respectfully invited to the Federal Circuit decision in *In re Fine*, 5 USPQ2d 1956 (Fed. Cir. 1988) wherein the Court stated at 1600:

It is essential that "the decisionmaker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time the invention was made . . . to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *Id.* One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. (Emphasis added)

The admonitions in Ex parte Giles and In re Fine are to step back in time to evaluate the invention only in the context of what is disclosed in the references without regard to what is disclosed in applicant's specification. When this is done, it is believed clear that one of ordinary skill in the art would not arrive at applicant's invention based only upon the references and "the then-accepted wisdom in the art."

Further, even assuming that the Kaminsky and Ewen patents could be combined to establish a *prima facie* case of obviousness applicant's invention produces unexpected results which would rebut any such *prima facie* case of obviousness and establish patentability of the claimed invention. In this regard, the experimental work and description found in applicant's application makes it clear that the use of an alkyl silyl group instead of an ethylene bridge group

increases the molecular weight and melting point of the polymer product. See for example applicant's specification at pages 8 and 9 and the first full paragraph of page 10. Supporting evidence of this is found in applicant's Examples 1 – 18 in which using a metallocene catalyst component with a silicon hydrocarbyl bridge yields polymer with higher molecular weight than that by using a metallocene catalyst component with an ethylene bridge.

The use of a silicon hydrocarbyl bridge in the metallocene compound has caused a previously unknown effect of an increase in the molecular weight of a polymer made with the metallocene as a catalyst component. This is directly shown in a comparison of Examples 2 and 10 where the amount of catalyst, amount of co-catalyst, polymerization temperature and polymerization method were the same but the intrinsic viscosity (I.V.) which is correlatable to molecular weight is lower for the ethylene bridge in Example 2 than for the silicon hydrocarbyl bridge of Example 10. Also, the melting point is affected by using a metallocene catalyst component with a silicon hydrocarbyl bridge. This fact is illustrated by comparison of Examples 2 and 10 where the amount of catalyst, amount of co-catalyst, polymerization temperature and polymerization method were the same but the melting point (T_m) is lower for the ethylene bridge in Example 2 than for the silicon hydrocarbyl bridge of Example 10.

The metallocene catalysts having a silicon hydrocarbyl bridge as claimed yield the unexpected result of producing polymer with higher molecular weight and higher melting point when compared with the corresponding carbon bridged metallocene catalysts. There is no evidence in the prior art that the claimed catalysts would be expected to possess such a property and any possible *prima facie* case of obviousness based upon Kaminsky and Ewen is clearly rebutted.

Turning now to the requirement for restriction between the claims of Group I and the claims of Group II, applicant would respectfully submit that this requirement is not in compliance with the criteria for restriction set forth in MPEP § 803, which requires, in addition to a showing that the inventions are independent or distinct that:

(B) There must be a serious burden on the examiner if restriction is required (see MPEP § 803.02, § 806.04(a) - § 806.04(i), § 808.01(a), and § 808.02).

In the present case there would appear to be no serious burden on the Examiner given the close similarity of the subject matter set forth, for example, in claim 37 and that set forth in claim 67. It would appear that the fields of search for these two claims would be identical.

Further, the Examiner is respectfully requested to consider the requirements for distinctiveness as set forth in MPEP § 802.01 under the heading "DISTINCT":

The term "distinct" means that two or more subjects as disclosed are related, for example, as combination and part (subcombination) thereof, process and apparatus for its practice, process and product made, etc., but are capable of separate manufacture, use, or sale as claimed, AND ARE PATENTABLE (novel and unobvious) OVER EACH OTHER (though they may each be unpatentable because of the prior art).
(Emphasis original)

It is evident that the Examiner has reached the conclusion that claims of Group I are directed to subject matter which is patentable over the subject matter of the claims of Group II. However, the reverse is not true. Since all of the catalyst limitations of claim 67 are found in the subject matter of claim 37, it could hardly be argued that the subject matter of claim 67 would be patentable over the subject matter of claim 37. The two claimed inventions are not patentable "over each other." This requirement is not only stated in MPEP Section 802.01, it is emphasized. It is respectfully submitted that procedure explicitly stated in the MPEP should be adhered to,

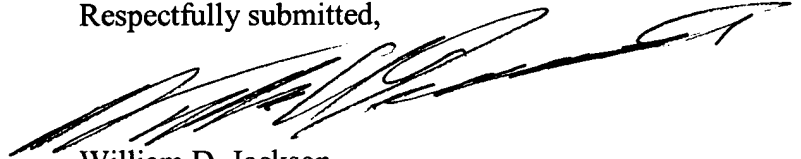
and for this reason, as well as the fact that no serious burden on the Examiner has been established, the restriction requirement should be withdrawn.

Accordingly it is respectfully requested that the requirement for restriction between Groups I and II be withdrawn.

For the reasons advanced above, an early reconsideration and allowance of this application is respectfully requested.

The Commissioner is hereby authorized to charge our Deposit Account No. 12-1781 for any fee that may be due in connection with this communication.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'William D. Jackson', written over a horizontal line.

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